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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Shawn R. Gettemy

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EXAMINER

XIAO, KE

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/996,149	GETTEMY ET AL.	
	Examiner	Art Unit	
	Ke Xiao	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Failla (US 5,128,662) in view of Koenig (US 2002/0021258).

Regarding independent **Claim 18**, Failla teaches a handheld computer (Failla, Fig. 25), comprising:

a housing (Failla, Fig. 25 element 307);

an expandable display assembly supported on the housing, providing a first viewing area and providing a second viewing area substantially the same size as the first viewing area the first viewing area foldable underneath the second viewing area (Failla, Fig. 25 elements 814 and 817); and

wherein a user may view images on the second viewing area when the display assembly is folded and on the combined first and second viewing areas when the display assembly is unfolded (Failla, Fig. 25).

Failla fails to teach a touch sensor associated with the expandable display as claimed. Koenig teaches an expandable display, which uses a touch sensor, associated with the display, the touch sensor being enlarged when the expandable display is

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unfolded (Koenig, Fig. 3, Pg. 2 paragraph [0034]). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the touch sensitive display as taught by Koenig to the display device of Failla in order to provide a convenient interactive tool for data input.

Failla also fails to teach wherein images are not displayed on the first viewing area when the display assembly is folded and images are displayed on the second viewing area. Koenig teaches wherein images are not displayed on the first viewing area when the second viewing area blocks the first viewing area (Koenig, Figs. 3 and 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to have not displayed an image as taught by Koenig when the first display portion is folded behind the second display portion of Failla in order to save power.

Regarding **Claim 21**, Failla further teaches that the portable electronic device is a handheld computer (Failla, Col. 1 lines 5-27).

Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Failla (US 5,128,662) in view of Katsura (US 6,377,324) and Koenig (US 2002/0021258).

Regarding independent **Claim 24**, Failla teaches a method of using a handheld computer (Failla, Col. 1 lines 5-27), comprising:

viewing an image on a first viewing area of a foldable display, the segmented display comprising the first viewing area and a second viewing area folded behind the first viewing area (Failla, Figs. 46-47),

enlarging the segmented display, by unfolding, to provide an enlarged viewing area comprising the first and second viewing areas (Failla, Fig. 46);

viewing an image in the enlarged viewing area (Failla, Fig. 46).

Failla fails to teach that the foldable display is a flexible display. Katsura teaches that a foldable display can use a flexible display (Katsura, Figs. 1-3 element 4). It would have been obvious to have used the flexible display of Katsura in place of the segmented display of Failla in order to eliminate the visual artifacts between discrete display segments of Failla.

Failla fails to teach providing input to the handheld computer via the touch sensor comprising the first sensing area and a second sensing area associated with the enlarged viewing area of the flexible display and that the first sensing area is associated with the first viewing area of the flexible display. Katsura teaches an expandable display, which use a touch sensor, with a view area associated with a first viewing area, the touch sensor being enlarged when the expandable display is unfolded (Katsura, Figs. 1-3 Col. 5 lines 12-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the touch sensitive sensor as taught by Katsura to the display device of Failla in order to provide a convenient tool for data input.

Failla as modified by Katsura fails to teach wherein images are not displayed on the first viewing area when the display assembly is folded and images are displayed on the second viewing area. Koenig teaches wherein images are not displayed on the first viewing area when the second viewing area blocks the first viewing area (Koenig, Figs. 3-4). It would have been obvious to one of ordinary skill in the art at the time of the

invention to have not displayed an image as taught by Koenig when the first display portion is folded behind the second display portion of Failla in order to save power.

Regarding **Claim 25**, Katsura further teaches decoupling the flexible display from the handheld computer (Katsura, Col. 5 lines 11-13). To elaborate Katsura teaches that the display is mounted on the handheld computer, which means that it can clearly be decoupled from the handheld computer.

Regarding **Claim 26 and 27**, Katsura as modified by Katsura and Koenig fails to teach providing input using a fingertip or a stylus but merely teaches that a touching action is needed (Katsura, Col. 5 lines 12-20). Since the applicant has failed to disclose that a fingertip or a stylus for touching the touch sensor provides an advantage, is used for a particular purpose, or solves a stated problem, it is an obvious matter of design choice to have used the fingertip or the stylus to touch the touch panel. Therefore it would have been obvious to use a fingertip or a stylus to provide the input because any touching tool would have been just as effective at activating the touch sensor.

Claims 1, 3-4, 7, 9-10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodony (US 6,307,751) in view of Gamsaragan (US 2002/0140690) and Failla (US 5,128,662).

Regarding **Claims 1 and 13**, Bodony teaches a display system, detachable from a host device (Bodony, Figs. 7 and 19A element 100), the display system comprising:

- a power source (Bodony, Fig. 7 element 712);

- a processor coupled to the power source (Bodony, Fig. 7 element 702);

a memory coupled to the power source and the processor (Bodony, Fig. 7 element 708);

a flexible electronic display coupled to the processor and the power source (Bodony, Fig. 7 element 706);

a coupler for coupling the flexible electronic display to the host device (Bodony, Fig. 7 element 714);

a flexible touch sensor movable with the flexible electronic display (Bodony, Col. 7 lines 63-66, Col. 12 lines 54-65, Col. 13 lines 15-25);

and a transceiver coupled to the processor (Bodony, Fig. 7 element 714).

Bodony fails to teach that the transceiver receives information from the host device when the display is decoupled from the coupler, and images are provided on the display based on the information. Gamsaragan teaches using a radio link established between a transceiver and a base station on a computing display subsystem (Gamsaragan, Figs. 1 and 2, paragraphs [0016-0021]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the radio link between the display and the transceiver as taught by Gamsaragan when the display is decoupled from the coupler of Bodony in order allow the user to travel while using the display (Gamsaragan paragraphs [0004-0006]).

Bodony as modified by Gamsaragan fails to teach that a foldable display being configured in more than two sections, each section being foldable behind another section. Failla teaches a foldable display assembly being configured in more than two sections, each section being foldable behind another section, such that whatever

sections are in view of the user comprises the display area being used by the host device (Failla, Fig. 46-47). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the display device of Bodony as modified by Gamsaragan into a foldable display as taught by Failla so as to enhance the amount of information display capability while still being readily storable for transportability (Failla, Col. 2 lines 38-45).

Bodony as modified by Gamsaragan and Failla further teaches that wherein during use of the flexible electronic display each section folded behind another section is not exposed when the flexible electronic display is coupled to the host device (Failla, Figs. 46-50). Failla clearly shows that the foldable display shown in Fig. 46 can be used in a portable computer as shown in 49, as such if the display is folded as well as attached to the computer than it is also stored and not exposed (Failla, Fig. 48 and 49).

Regarding **Claim 7**, Bodony teaches a portable electronic (Bodony, Figs. 18-20) device comprising:

- a housing (Bodony, Fig. 19A);
- a coupled connected to the housing (Bodony, Fig. 19A); and
- a flexible display screen assembly, the flexible display screen assembly having a first viewing area providing images that are viewable by a user when coupled to the coupler (Bodony, Fig. 19A), the flexible display screen assembly including,
 - a power source (Bodony, Fig. 7 element 712);
 - a processor coupled to the power source (Bodony, Fig. 7 element 702);

a memory coupled to the power source and the processor (Bodony, Fig. 7 element 708);

a flexible electronic display coupled to the processor and the power source (Bodony, Fig. 7 element 706);

a flexible touch sensor movable with the flexible electronic display (Bodony, Col. 7 lines 63-66, Col. 12 lines 54-65, Col. 13 lines 15-25);

Bodony fails to teach that the display screen is expandable to provide a larger viewing area at least when decoupled from the coupler. Failla teaches a display screen which is expandable to provide a larger viewing area (Failla, Figs. 46-47). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the display device of Bodony into an expandable display to provide a larger viewing area taught by Failla so as to enhance the amount of information display capability while still being readily storable for transportability (Failla, Col. 2 lines 38-45).

Bodony as modified by Failla fails to teach that the expanded display can decouple from the coupler. Gamsaragan teaches that the display can be detached from the body of a portable electronic device. It would have been obvious to have added the function of detachability as taught by Gamsaragan to the expandable display of Bodony as modified by Failla in order allow the user to travel while using the display (Gamsaragan paragraphs [0004-0006]).

Bodony as modified by Gamsaragan and Failla further teaches that the flexible electronic display is configured in more than two sections, each section being foldable

behind another section such that whatever sections are in view of the user comprise the display area being used by the portable electronic device (Failla, Figs. 46-47).

Bodony as modified by Gamsaragan and Failla further teaches that the flexible touch sensor provides an enlarged touch sensor area when the viewing area of the flexible display assembly is enlarged (Gamsaragan, Figs. 1-2 Failla, Figs. 3-4).

Bodony as modified by Gamsaragan and Failla further teaches that wherein during use of the flexible electronic display each section folded behind another section is not exposed when the flexible electronic display is coupled to the host device (Failla, Figs. 46-50). Failla clearly shows that the foldable display shown in Fig. 46 can be used in a portable computer as shown in 49, as such if the display is folded as well as attached to the computer than it is also stored and not exposed (Failla, Fig. 48 and 49).

Regarding **Claims 3 and 9**, Bodony as modified by Gamsaragan and Failla clearly teach that the flexible display being foldable; (Failla, Fig. 46-47).

Regarding **Claims 4 and 10**, Bodony further teaches that the host device is a handheld computer (Bodony, Col. 9 lines 18-28).

Regarding **Claim 15**, Bodony further teaches a coupler (Bodony, Fig. 7 element 714) coupled to a handheld computer.

Claims 2, 5, 8, 11, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodony (US 6,307,751) in view of Gamsaragan (US 2002/0140690) and Failla (US 5,128,662), as applied to Claims 1, 3-4, 7, 9-10, 13 and 15 and further in view of Comiskey (US 2003/0067427).

Regarding **Claims 2, 8 and 14**, Bodony as modified by Gamsaragan and Failla fails to teach that the flexible electronic display being electronic paper. Comiskey teaches that flexible displays can be used as electronic paper (Comiskey Pg. 8 paragraph [0095]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the electronic paper as taught by Comiskey to the display panel of Bodony as modified by Gamsaragan and Failla because the electronic paper can be used anywhere paper is used today but offers the ability to be updated via stylus (Comiskey Pg. 8 paragraph [0095]).

Regarding **Claims 5, 11 and 16**, Bodony as modified by Gamsaragan and Failla fail to teach a touch sensor including a transparent coating. Comiskey teaches a touch sensor including a transparent coating (Comiskey, Pg. 4 paragraph [0060]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have added a transparent coating as taught by Comiskey to the touch sensor of Bodony as modified by Gamsaragan and Failla in order to protect the touch panel from wear and tear.

Claims 6, 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodony (US 6,307,751) in view of Gamsaragan (US 2002/0140690) and Failla (US 5,128,662), as applied to Claims 1, 3-4, 7, 9-10, 13 and 15 and further in view of Charlier (US 2003/0064751).

Regarding **Claims 6, 12 and 17**, Bodony as modified by Gamsaragan and Failla fail to teach that the touch sensor includes an electrotexile. Charlier teaches that it is

well known to use electrotexile materials in user interface devices such as touch panels and keypads (Charlier Pg. 2 paragraph 0029). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used electrotexile material as taught by Charlier to the touch sensor of Bodony as modified by Gamsaragan and Failla because the electrotexile sensor can be folded without damage to the sensor.

Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Failla (US 5,128,662) in view of Koenig (US 2002/0021258) as applied to Claims 18 and 21 above, and further in view of Comiskey (US 2003/0064751).

Regarding **Claim 19**, Failla as modified by Koenig fails to teach that the flexible electronic display being electronic paper. Comiskey teaches that flexible displays can be used as electronic paper (Comiskey Pg. 8 paragraph [0095]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the electronic paper as taught by Comiskey to the display panel of Failla as modified by Koenig because the electronic paper can be used anywhere paper is used today but offers the ability to be updated via stylus (Comiskey Pg. 8 paragraph [0095]).

Regarding **Claims 22**, Failla as modified by Koenig fails to teach a touch sensor including a transparent coating. Comiskey teaches a touch sensor including a transparent coating (Comiskey, Pg. 4 paragraph [0060]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have added a transparent coating as taught by Comiskey to the touch sensor of Failla as modified by Koenig in order to protect the touch panel from wear and tear.

Claims 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Failla (US 5,128,662) in view of Koenig (US 2002/0021258) as applied to Claims 18 and 21 above, and further in view of Charlier (US 2003/0064751).

Regarding **Claim 23**, Failla as modified by Koenig fail to teach that the touch sensor includes an electrotexile. Charlier teaches that it is well known to use electrotexile materials in user interface devices such as touch panels and keypads (Charlier Pg. 2 paragraph 0029). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used electrotexile material as taught by Charlier to the touch sensor of Failla as modified by Koenig because the electrotexile sensor can be folded without damage to the sensor.

Response to Arguments

Applicant's arguments filed February 28th, 2006 have been fully considered but they are not persuasive.

Applicant's arguments with respect to Claims 18, 21 and 24-27 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to Claims 1, 3-4, 7, 9-10, 13 and 15 have been considered but are not persuasive:

Regarding Claims 1 and 7, the applicant argues that the newly added limitation "wherein during use of the flexible electronic display each section folded behind another section is not exposed when the flexible electronic display is coupled to the host device"

is not taught by the combination of Bodony as modified by Gamsaragan and Failla. The examiner respectfully disagrees. Failla clearly teaches that the sections, which are folded, are not exposed as per rejection of Claims 1 and 7 (Failla, Figs. 46-49). To elaborate Figs. 46 and 47 show a cross section of only the display device for simplification in actuality the foldable segmented display is used in a portable computer which shown in Fig. 49. Therefore when the segmented displays are folded they are clearly "folded behind another section" and "is not exposed when the flexible electronic display is coupled to the host device".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571) 272-7776. The examiner can be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 19th, 2006 - kx -


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SUPERVISORY PATENT EXAMINER